Distr.: General
11 August 1999

English
Original: Spanish

THIRD UNITED NATIONS CONFERENCE ON THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE

Vienna
19-30 July 1999

Abstract of the national paper of the Philippines

1. While technologies of remote sensing and Geographic Information Systems (GIS) for a wide spectrum of applications have been in use in the Philippines for two decades, the impetus for current national activities in space science and technology applications has come from the Regional Space Applications Programme for Sustainable Development (RESAP) launched by the Ministerial Conference on Space Applications for Development in Asia and the Pacific Region, held in Beijing from 19 to 24 September 1994. That Conference also adopted the Beijing Declaration on Space Technology Applications for Environmentally Sound and Sustainable Development in Asia and the Pacific, the Strategy for Regional Cooperation in Space Applications for Sustainable Development, and the Action Plan on Space Applications for Sustainable Development in Asia and the Pacific. The Strategy provides a general policy instrument for cooperation and coordination in space applications projects at both the national and regional levels. It also outlines the national and regional mechanisms for building the capacity of the States concerned to use space technology applications for natural resources accounting, environmental management, disaster monitoring, poverty alleviation and planning for sustainable development. The Action Plan addresses a number of major issues and outlines the required courses of action for implementation at the national level. RESAP thus serves as a vehicle for achieving the goals proclaimed in both the Strategy and the Action Plan.

2. States in and around the region of Asia and the Pacific have made headway in the implementation of RESAP, but the Philippines has yet to harness the huge potential of the application of space technology for sustainable development. Since individual agencies cannot independently initiate a comprehensive and effective space programme, collaboration is necessary among those having complementary capabilities and technological levels.

3. The Science and Technology Coordinating Council—Committee on Space Technology Applications (STCC-COSTA), under the aegis of the Department of Science and Technology of the Philippines, is a collaborative undertaking by agencies involved in the use and application of space technologies. Since its inception in the early 1990s, STCC-COSTA has implemented a number of research and development projects, mostly in remote sensing and GIS, and hosted and coordinated several international workshops and conferences. However, a concrete national framework and strategy for research and development in the area of space technology applications still has to be established. A national research plan for space technology applications is therefore needed.

4. A national programme for space technology applications will define the focus of scientific and technological efforts in all aspects of space technology use and development in

the Philippines. It will form part of a series of measures designed to enable the Philippines to become a newly industrializing country in the medium term (1999-2004). The programme will emphasize the development and utilization of advanced space technologies to achieve a competitive advantage. Its activities are intended to parallel those of current national and regional programmes, including the National Science Technology Agenda and RESAP.

5. In addition, the enactment of a National Mapping and Resources Information Authority Modernization Bill to promote the utilization of space technologies to modernize the management of natural resources and the environment is pending.

6. The private sector has undertaken its own initiatives, with the launching of the Agila I and Agila II satellites in the early 1990s to meet burgeoning demand in the telecommunications and commercial broadcasting industries in the Philippines. The Agila II has a large ground footprint and is one of the most formidable satellites of its class in the region.

7. STCC-COSTA is involved in the Pacific Rim Mission, a milestone project of the National Aeronautics and Space Administration (NASA) of the United States of America. Phase I of the Philippine NASA Aircraft Synthetic Aperture Radar (AirSAR) Project, which promotes the use of AirSAR data for applications relating to the management of natural resources and development planning, was funded by the Department of Science and Technology with technical assistance from the NASA Jet Propulsion Laboratory and the University of New South Wales, Australia. Phase II activities, focusing on information processing and extraction, interpretation and map generation of selected sites, are under way.

8. Past and current projects under the auspices of STCC-COSTA may be summarized as follows:

(a) Research and development projects:

(i) Philippine-Austrian Remote Sensing Project;

(ii) Natural Resources and Environment Management Project of the Centre for Earth Observation, the European Space Agency (ESA) and the Association of South-East Asian Nations (ASEAN);

(iii) Philippine NASA AirSAR Project, Phases I and II;

(iv) Land Use Land Cover Change Project;

(v) ASEAN-Australian Project on Topographic Mapping using Remote Sensing Technologies;

(vi) Monitoring Lahar using Advanced Earth Observation Satellite (ADEOS) Data;

(vii) Chlorophyll Study of Lingayen Gulf using ADEOS;

(b) Training and conferences hosted:

(i) Fourth Regional Remote Sensing Seminar on Tropical Ecosystems;

(ii) United States-ESA-Philippine Workshop on Microwave Remote Sensing Applications;

(iii) Nineteenth Asian Conference on Remote Sensing;

(iv) Radar workshops conducted by the NASA Jet Propulsion Laboratory in connection with the AirSAR Project.

(c) Membership of international and regional working groups and other bodies:

(i) Working groups at the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III);

(ii) Economic and Social Commission for Asia and the Pacific regional working groups on:

a. Remote sensing, GIS and global positioning;

b. Satellite communication applications;

c. Meteorological satellite applications and natural hazards monitoring;

d. Space sciences and technology applications;

(iii) Intergovernmental Consultative Committee on the Regional Space Applications Programme for Sustainable Development;

(iv) ASEAN Expert Group on Remote Sensing;

(d) Policy formulation:

(i) Inter-Agency Task Force on Land Water Information Systems;

(ii) Inter-Agency Task Force on Geographic Information.

Areas for future research and development in space science and technology applications in the Philippines

9. *Establishment of an infrastructure for spatial information exchange*. The Inter-Agency Task Force on Geographic Information of the Office of the President is working on the establishment of an infrastructure for spatial information exchange, data integration and standardization. In the field of meteorology, the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) plans to expand its observation or data collection and exchange networks through the establishment of regional service centres, the improvement of its telecommunications network, and the procurement of Doppler radars and advanced astronomical equipment and facilities.

10. *Continuing research and development relating to the applications of space technologies to address environmental issues in the Philippines*. Several major research programmes aimed at improving the meteorological and hydrological services of PAGASA will be pursued. The programmes should enhance the capabilities of the agency in the following areas: monitoring and prediction of El Niño Southern Oscillation-La Niña; specialized weather services for agriculture; marine meteorology and oceanography; aviation meteorology; climate change and global warming issues; disaster preparedness and mitigation; and astronomy and space science.

11. Most of the programmes will make use of data and information from remote sensing satellites and Earth-based stations, while astronomical research will involve studies of observational data from a 45-centimetre telescope with a camera using a charge-coupled device, and with a photoelectric photometer and a spectrograph. The telescope and its accessories will be used for photography, measurements and recording of faint light or electromagnetic fields from celestial objects. Data from the Hubble Space Telescope will also be used in the studies.

12. *Research and development relating to data reception and processing systems for remote sensing and telecommunications applications*. The Philippines has recently joined the Asian Internet Interconnection Initiative launched by Japan, the aim of which is to build a test bed for networking research and experimentation in Asia by providing partner countries with free access to the JCSAT-3 satellite transponder, a key part of the networking test bed.

13. Research experiments have been, and are still being, conducted on the application of image processing, version 6, and on multicast transmission by image processing, analysis of

satellite data traffic, testing of Ku-band links, videoconferencing, satellite video broadcasting and distance learning. The University of the Philippines, in association with the Open University, also has a project for the provision, through Community Teleservice Centres, of public telephones, fax services, e-mail, access to the Internet and other electronic databases, as well as teletraining and telemedicine.

14. *Collective data acquisition through the establishment, operation and maintenance of ground receiving stations*. Research and development could focus on the following areas:

(a) Development of expertise in the integration of satellite designs and facilities;

(b) Acquisition and development of capabilities in satellite subsystems, including sensors and payloads, power, telemetry and control;

(c) Development of downstream applications of global and other satellite-based positioning systems for various navigational and civil applications.

Distr.: General
7 September 1999

English
Original: Arabic

THIRD UNITED NATIONS CONFERENCE ON THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE

ienna
9-30 July 1999

Abstract of the national paper of the Syrian Arab Republic

1. The Syrian Arab Republic, since its establishment of the General Organization of Remote Sensing in 1986, has participated in the activities of the Office for Outer Space Affairs of the Secretariat. The General Organization of Remote Sensing participated in symposia and workshops organized by the Office in Austria, China, Norway and other countries, as well as in the Regional Preparatory Conference for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space for Africa and the Middle East, held in Rabat from 26 to 30 October 1998.

2. The General Organization of Remote Sensing has always benefited from its cooperation with United Nations bodies in the applications of remote sensing and other related techniques, such as the Geographic Information System, in particular in the development of projects designed to promote economic and social development.

3. Various application studies and development projects involving the use of remote sensing and satellite data have already been implemented, with the following results:

(a) Satellite images were interpreted and successfully used to study the groundwater in different parts of the Syrian Arab Republic, including the coastal area and the southern and interior regions of the country;

(b) A field study of the land and forests of the coastal area, a study of desertification in the north-eastern region, a number of regional organizational schemes for the southern and coastal areas and organizational schemes for cities like Damascus and Aleppo have been produced;

(c) A study for the evaluation of the natural resources of the Abdel-Aziz Mountain in the north-eastern region has been designed;

(d) Detailed geo-ecological maps for the region and countryside of Damascus and for the southern region have been produced, and thermal remote sensing has been used to scan the Syrian coast to identify fresh-water leakage to the sea and study coastal pollution;

(e) An advanced space atlas for the Syrian Arab Republic has been produced, and a scientific magazine about remote sensing techniques and space research is issued regularly.

4. Work is under way to produce thematic digital maps for selected important areas in the Syrian Arab Republic, with a view to continuing the exploration for mineral, oil, gas and other natural resources.

5. The General Organization of Remote Sensing hoped that the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, in view of its emphasis on new directions for the future and of the great importance attached to its outcome, would draw up a specific, objective and realistic programme whereby:

(a) Effective international cooperation in the use of space and remote sensing technology would be promoted;

(b) Developed countries that possess advanced space technology and know-how would assist developing countries through the sharing of such technology. The globalization of space technology would therefore be based on mutual cooperation, free of hegemony, and on the recognition that genuine human progress will require the control and use of the Earth's resources for the good of humanity as a whole.